**ORDINANCE NO.**

**An ordinance amending the Land Development Code, Article II, Section 20-2.3, “Definitions” and Article III, Section 20-3.6 “Supplemental Regulations” adding subsection (W) “Solar Requirements” and providing definitions relating to and criteria and regulations for solar collectors in the City of South Miami**

**WHEREAS**, the South Miami City Commission expressly declares that the following amendments to the South Miami Land Development Code are reasonable and necessary because of local climatic, topological, and geological conditions as listed below; and

**WHEREAS**, as a coastal city located on the tip of a peninsula, the Miami region is vulnerable to sea level rise, and human activities releasing greenhouse gases into the atmosphere that increase the worldwide average temperature, contributing to the melting of glaciers, thermal expansion of ocean water, and shifting or slowing of the Gulf Stream, all resulting in rising sea levels; and

**WHEREAS**, South Florida is already experiencing the repercussions of excessive CO2 emissions as rising sea levels threaten shorelines and infrastructure, have caused significant erosion, have increased impacts to infrastructure during extreme tides, and have caused the City to expend funds to modify the sewer system; and

**WHEREAS**, some people in South Miami, such as the elderly, may be particularly vulnerable to higher temperatures resulting from climate changes; and

**WHEREAS**, installing solar will help South Miami meet its goals under Res. No. 23-09-12832, dated February 9, 2009, stating: “The City of South Miami commits to a Carbon Neutral Initiative to lead the community by example and to implement policies to eliminate net emission of carbon dioxide and other greenhouse gases by the end of 2030”; and

**WHEREAS**, distributed power, such as rooftop solar, can serve as generator systems for the purposes of hurricane preparedness and thus comports with Sec. 252.371 Fla. Stat., the Emergency Management, Preparedness, and Assistance Trust Fund; and

**WHEREAS**, distributed photovoltaic generation provides a basis for future microgrids, making the city more resilient as a whole, benefiting the health, welfare, and resiliency of South Miami and its residents; and

**WHEREAS**, the 2008 Florida legislature enacted Section 163.04, Fla. Stat., with the legislative intent of protecting the public health, safety, and welfare by encouraging the development and use of renewable resources; and

**WHEREAS**, Section 163.08 (1)(a), Fla. Stat., found that chapter 2008-227, Laws of Florida, amended the energy goal of the state comprehensive plan to provide, in part, that the state shall reduce its energy requirements and reduce atmospheric carbon dioxide by promoting an increased use of renewable energy resources. That chapter also declared it the public policy of the state to play a leading role in developing and instituting energy management programs that promote energy conservation, energy security, and the reduction of greenhouse gases. In chapter 2008-191, Laws of Florida, the Legislature adopted new energy conservation and greenhouse gas reduction comprehensive planning requirements for local governments. In the 2008 general election, the voters of this state approved a constitutional amendment authorizing the Legislature, by general law, to prohibit the increase of assessed value of residential real property due to change or improvement made for the purpose of improving a property’s resistance to wind damage or the installation of a renewable energy source device; and

**WHEREAS**, Section 163.08 (1)(b), Fla. Stat., found that the installation and operation of improvements not only benefitted the affected properties for which the improvements were made, but also assisted the state in fulfilling the goals of the state’s energy mitigation policies and “Qualifying improvement” includes any energy conservation and efficiency improvement, which is a measure to reduce consumption through conservation of electricity and the installation of any system in which the electrical or thermal energy is produced from a method that uses solar energy; and

**WHEREAS**, section 193.624, Fla. Stat., provides that “… the term “renewable energy source device” means …. (a) Solar energy collectors, photovoltaic modules, and inverters and in subsection (2) it provides that [i]n determining the assessed value of real property used: (a) For residential purposes, an increase in the just value of the property attributable to the installation of a renewable energy source device may not be considered.”; and

**WHEREAS**, section 212.08 (7) (hh), Fla. Stat., provides that the sale at retail, the rental, the use, the consumption, the distribution, and the storage to be used or consumed in this state of solar energy systems are exempt from the tax imposed by this chapter 212; and

**WHEREAS**, requiring solar photovoltaics at the time of new construction is more cost-effective for the homeowner than installing the equipment after home construction because (i) it is less expensive to reinforce a roof to accommodate the extra forces of a solar array, (ii) solar wiring can be incorporated more efficiently into electrical panels at the time of initial wiring, and, (iii) a solar system can be financed at a lower rate if included in the initial home financing; and

**WHEREAS**, it is reasonably necessary to require builders to take steps to reduce the energy consumed by inefficient building operations and produce renewable, low-carbon electricity, or capture solar energy, in order to reduce pollution, benefit biodiversity, improve resilience to climate change by reducing localized heat islands, and reduce the global warming effects of energy consumption; and

**WHEREAS**, a cost-benefit analysis by the U.S. Department of Energy shows that rooftop solar, at today’s costs, provides FPL customers with a Savings-to-Investment Ratio (SIR) of 1.55 using the Federal Renewable Energy Tax credit, and a SIR of 1.08 without the tax credit, both figures being greater than 1.0 which indicates a net financial benefit of roof-top solar to the household (www.nrel.gov/solar/assets/docs/sir.xlsx); and

**WHEREAS**, the payback period for photovoltaic solar systems is in the range of one quarter to one half the life expectancy of the photovoltaic panels, meaning the homeowner receives a 50-75% decrease in the overall cost of power; and

**WHEREAS**, the cost of rooftop solar power continues to fall, while the cost of utility power in South Florida continues to rise, guaranteeing an increasing economic benefit to the home owner and increasing the value of the property; and

**WHEREAS**, the Solar Energy Center at the University of Central Florida has shown that, at today’s electricity and solar PV prices and historic inflation rates over the past 20 years, the Internal Rate of Return (IRR) on rooftop photovoltaic systems runs between 9% and 14%, an extraordinary tax-free fixed rate investment return to a property owner; and

**WHEREAS,** the Low-income Solar Policy Guide, produced by the Center for Social Inclusion in 2016 states: “Because low-income families spend a disproportionate amount of their income on utility bills, they receive a proportionally greater economic benefit from solar power”, (Low Income Solar Policy Guide, http://www.lowincomesolar.org); and

 **WHEREAS**, home buyers across a variety of states pay a premium for properties with PV equal to or greater than the cost of the solar system itself, adding $3.58/watt on new homes and $4.51/watt on existing homes (*“Selling into the Sun: Premium Analysis of a Multi-State Dataset of Solar Homes”* Lawrence Berkeley National Laboratory, prepared for the Office of Energy Efficiency and Renewable Energy Solar Energy Technologies Office U.S. Department of Energy, January 13, 2015 [https://emp.lbl.gov/publications/selling-sun-price-premium-analysis-0)](https://emp.lbl.gov/publications/selling-sun-price-premium-analysis-0%29); and

**WHEREAS**, in housing markets similar to South Miami’s, PV systems that were owned (not leased) benefitted home builders and owners by increasing market value and decreasing marketing time (The Impact of Photovoltaic Systems on Market Value and Marketability, Colorado Energy Office, <https://www.colorado.gov/pacific/energyoffice/atom/35466>); and

**WHEREAS**, this ordinance is modeled after similar ordinances enacted in the municipalities of Lancaster CA, Sebastopol CA, Santa Monica CA, and San Francisco CA, none of which have been reported to reduce the rate of home construction, home-buying, or to cause hardship or difficulties for homeowners or would-be homeowners; and

**WHEREAS**, rooftop solar installation benefits the local economy by supporting small businesses, creating well-paying jobs, and directing profits to local business owners rather than exporting them to corporate shareholders; and

**WHEREAS**, on June 13, 2017, the Planning Board reviewed and unanimously approved this ordinance requiring solar energy collectors as part of new construction of certain residential dwellings.

**NOW, THEREFORE, BE IT ORDAINED BY THE MAYOR AND CITY COMMISSION OF THE CITY OF SOUTH MIAMI, FLORIDA:**

**Section 1**. South Miami Land Development Code Article II, “Definitions” is hereby amended to read as follows:

**20-2.3 Definitions.**

\* \* \*

*Living Area* - shall mean gross floor area.

*Nameplate capacity*. Also known as the rated capacity, nominal capacity, installed capacity, or maximum effect, nameplate capacity shall mean the intended full-load sustained output of a facility such as a photovoltaic system.

*Photovoltaic System (PV)* - shall mean a type of solar collector that uses photovoltaic cells to directly convert sunlight into electricity.

*Photovoltaic Thermal Collectors* - shall mean photovoltaic, thermal hybrid solar collectors, sometimes known as hybrid PV/T systems or PVT, which are systems that convert solar radiation into thermal and electrical energy.

*Solar Collectors* - shall mean any photovoltaic or solar-thermal collectors or any combination thereof.

*Solar Thermal Collectors* - shall mean either, low-, medium-, or high-temperature collectors. Low temperature collectors are flat plates generally used to heat swimming pools. Medium-temperature collectors are also usually flat plates but are used for creating hot water for residential and commercial use. High temperature collectors concentrate sunlight using mirrors or lenses and are generally used for electric power production. Hybrid photovoltaic-thermal systems are also included.

*Solar Zone* - shall mean a place available on a roof for the installation of solar collectors that will receive unshaded sunlight at least five (5) hours a day. Exempt are roof sections sloped greater than 30 degrees (7/12 rise-to-run) oriented within 80 degrees of true north. If allowed by the Florida Building Code and notwithstanding any other provision in the City’s Land Development Code, the Solar Zone shall be located on the roof or suitable overhang of the building of single-family residences and townhouses and for qualifying multi-family buildings, the Solar Zone can be located on any of the following locations: roof of building, overhang of building, roof and/or overhang of another structure located on the same property within 250 feet of the primary building, covered parking installed with the building, other structures including trellises, arbors, patio covers, carports, gazebos, and similar accessory structures as may be sufficiently strong to support a solar array.

*Sunlit Area - s*hall mean that portion of a roofsection receiving at least 5 hours of sunlight on the equinox.

**Section 2**. South Miami Land Development Code Article III, “Zoning Regulations”, Section 20-3.6, “Supplemental Regulations” is hereby amended to read as follows:

(W) *Solar Requirements*

(1) Applicability. All new construction of single-family residences with living area greater than 1,100 square feet, townhouses, and any multi-story residential building where a section of roof can be reasonably allocated, as determined by the Director of the Building Department or the Planning and Zoning Department, to a separately metered dwelling unit (hereinafter referred to as “qualifying multi-story residential building”), that apply for preliminary approval (or final approval if no preliminary approval was obtained) by the Environmental Review and Preservation Board on or after 18 Sept. 2017 shall design and construct the roof so as to withstand the weight of all product approved roofing material with the weight of solar collectors and shall install at least the minimum amount of solar collectors required in subsection (2) of this section (W). This requirement shall also apply to existing residential buildings as described above, if an alteration or addition is made that either increases the square footage of the principal structure by 75% or greater, or that replaces 75% or more of the existing sub-roof (any portion of the sub-roof that is necessarily replaced due to damage from a natural disaster shall not be included in the calculation of this percentage).

(2) Minimum required installation. Solar collectors shall be installed in at least the following amounts, provided a sufficient Solar Zone exists to accommodate them as determined by the certification of an architect or engineer who shall also certify the total size of available Solar Zone in square feet:

 i. one panel with a minimum of 2.75 kW nameplate photovoltaic capacity per 1,000 square feet of living area provided there is sufficient space within the available roof top Solar Zone; or

 ii. 175 square feet of solar collectors per 1,000 square feet of roof area.

 iii sufficient solar collectors to fill the available Solar Zone, to the extent that such construction is allowed by the Florida Building Code.

(3) Avoiding the Creation of Shade. Structures shall be designed in such a way so as to maximize the available Solar Zone and for structures which have been designed by an architect or engineer, the plans submitted shall include a certificate from the architect or engineer of record certifying that the design of the structure has maximized the available Solar Zone. Obstructions which are not located on the roof or another part of the building, such as landscaping or a neighboring building are not subject to these placement requirements.

(4) Minimum specifications for solar collectors.

 i. Solar photovoltaic systems: Photovoltaic collectors satisfying the requirements of this section shall be at rated at no less than ten (10) watts DC faceplate capacity per square foot.

 ii. Solar thermal systems: Single-family residential solar domestic water heating systems shall be OG-300 System Certified by either the Solar Rating and Certification Corporation (SRCC) or the International Association of Plumbing and Mechanical Officials (IAPMO).

 iii. Solar photovoltaic systems and solar thermal systems shall be installed in accord with all applicable State code requirements, including access, pathway, smoke ventilation, and spacing requirements, all applicable local code requirements, and manufacturer’s specifications.

(5) Approval and compliance. All solar installations shall be permitted through the City. The plans shall demonstrate that the requirements of the City code and the Florida Building Code are satisfied and the engineer or architect of record shall sign and seal the plans indicating compliance. Subsequent review approval shall be carried out through the standard review processes for residential construction. Inspection shall be performed by the Building Department as per the City’s permit requirements for solar power or water heating installations. Enforcement of this ordinance shall be carried out by the City including the Code Enforcement Division.

**Section 3.** **Codification**. The provisions of this ordinance shall become and be made part of the Land Development Code of the City of South Miami as amended.

**Section 4.** **Severability.** If any section, clause, sentence, or phrase of this ordinance is for any reason held invalid or unconstitutional by a court of competent jurisdiction, this holding shall not affect the validity of the remaining portions of this ordinance or the Guidelines adopted hereunder.

**Section 5.** **Ordinances in Conflict**. All ordinances or parts of ordinances and all sections and parts of sections of ordinances in direct conflict herewith are hereby repealed.

**Section 6.** **Effective Date**. This ordinance shall become effective upon enactment.

PASSED AND ENACTED this 18th day of July, 2017.

ATTEST: APPROVED:

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CITY CLERK MAYOR

1st Reading

2nd Reading

READ AND APPROVED AS TO FORM: COMMISSION VOTE:

LANGUAGE, LEGALITY AND Mayor Stoddard: YES

EXECUTION THEREOF Vice Mayor Welsh: YES

 Commissioner Edmond: YES

 Commissioner Harris: YES

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Commissioner Liebman: NO

CITY ATTORNEY